



PREVENTION OPPORTUNITIES UNDER THE BIG SKY

MONTANA, THE LAST BEST PLACE, IS UNFORTUNATELY ALSO LAST IN THE COUNTRY IN CHILDHOOD IMMUNIZATION

A century ago few effective measures existed to prevent infectious diseases which were widely prevalent and took an enormous toll in the U.S. For example, in 1900, 21,064 smallpox cases were reported, and 894 patients died. In 1920, 469,924 measles cases were reported, and 7575 patients died; 147,991 diphtheria cases were reported, and 13,170 patients died. In 1922, 107,473 pertussis cases were reported, and 13,170 patients died.¹ Prior to the availability of polio vaccine in the mid 1950's, each summer was polio season. In Montana in 1953, 253 cases of polio were reported (on average, 5 cases each week), and in 1962, 8500 cases of measles (on average 23 cases per day) were reported. During the 20th century strategic use of vaccines virtually eliminated previously common diseases, including diphtheria, tetanus, poliomyelitis, measles, mumps, rubella, and by the end of the century, *Haemophilis influenza* type b meningitis. One disease, smallpox, was eradicated from the earth.

Since the 1920's when vaccines against diphtheria, pertussis and tetanus were developed more than a dozen additional vaccines have been developed for use in children. Because use of these vaccines prevents thousands of childhood deaths and many times more severe illnesses every year, clinicians and parents are urged to be sure that children are vaccinated. Unfortunately, compliance with childhood immunization recommendations is lower in Montana than in any other state. This issue of *Montana Public Health* compares the childhood immunization rate in Montana to that elsewhere in the U.S. and offers a strong recommendation to vaccinate Montana children.

Measuring the childhood immunization rate

Because childhood immunization is so beneficial, a sophisticated national program is used to monitor vaccination coverage. Since 1994 this program, the National Immunization Survey (NIS), has established estimates of the proportion of children vaccinated with recommended vaccines.² The NIS consists of two parts: a random-digit-dial telephone survey to identify households with children aged 19 to 35 months, and with consent from parents a survey of the children's health care providers to determine from a review of medical records the vaccines the children have had. The most recent NIS results (2008) provide a state-by-state comparison for coverage with vaccines recommended by the CDC's Advisory Committee on Immunization Practices (ACIP). Vaccines included in the complete vaccination series are listed in Table 1.

How does Montana measure up? The 2008 NIS estimates highlight a very important prevention opportunity in Montana. The complete childhood immunization level in Montana, 59%, was lower than that in any other state.³ The proportion of Montana children vaccinated with any one of the recommended vaccines ranked no higher than 48th among states in the U.S. (Table 2) The opportunities to improve are especially great for varicella (at least 1 dose), DTaP (at least 4 doses), and Hib (at least 3 doses) vaccines.

Table 1. The complete immunization status recommended by the ACIP for children aged 19-35 months, 2008

# doses	Vaccine
4	Diphtheria, tetanus, acellular pertussis (DTaP)
3	Polio
1	Measles, mumps, rubella (MMR)
3	<i>Haemophilis influenza</i> , type b (Hib)
3	Hepatitis B (Hep B)
1	Varicella

Table 2. Montana's childhood immunization rate (percent), national rank, and percentage point gap to match national average, 2008

Vaccine	Rate/100 (95%CI)	Rank	Gap
Complete	59.2 (6.8)	50	-16.9
4 DTaP	74.4 (6.2)	49	-10.2
3 Polio	88.5 (5.1)	49	-5.1
1 MMR	85.9 (5.1)	50	-6.2
3 Hib	81.1 (5.6)	48	-9.8
3 HepB	86.6 (5.4)	49	-6.9
1 Varicella	77.7 (6.0)	49	-13.0

Activities underway to improve the childhood

immunization rate in Montana

The DPHHS Immunization Program is collaborating with local health departments to intensify efforts to achieve higher vaccination rates, including:

- Enhanced use of immunization registry: Information about children for whom up-to-date vaccination cannot be confirmed in the “web-based immunization registry database” (WIZRD) is being used to remind clinical vaccine providers to vaccinate those children and keep WIZRD current.
- Collaboration: Local Health Departments are partnering with private providers to assess and improve immunization rates in each jurisdiction.
- Special project: Leaders from selected local health departments and from DPHHS are developing and field testing ways to increase childhood vaccination (supported by funding from the Robert Wood Johnson Foundation).
- Enforce rules: Enforcement of Administrative Rules related to immunization requirements for children in daycare facilities is being stressed.

Recommendations to clinicians, health departments, and others who care for children

(Clinicians)

- Follow guidelines: provide age-appropriate vaccinations as recommended by the ACIP and the American Academy of Pediatrics.
- Use opportunities to vaccinate: use each patient visit as an opportunity to vaccinate; reduce missed opportunities, e.g., use simultaneous vaccinations when appropriate.
- Recall-reminder systems: establish office practices that remind clinicians when vaccines are due, and recall patients who are due for vaccination.
- Educate and encourage: educate parents about the importance of vaccination for their children, and encourage parents to be sure their children are up-to-date with vaccinations.

(Local Health Departments, day care providers, foster parents, and others who care for children)

- Examine and use data: DPHHS is providing local area childhood immunization data to each local health department--- use these data to assess immunization coverage; establish systems to remind, recall and vaccinate children; and assure up-to-date immunization for Montana children.
- Emphasize partnerships: work with a wide range of local partners to identify children who fall behind on immunizations and get those children immunized; these partners could include WIC, Healthy Mothers/Health Babies, and Headstart as well as local health care providers.

For more information, contact the Immunization Section at 406-444-5580 and see www.immunization.mt.gov.

References:

1. CDC. Achievements in public health, 1900-1999. Impact of vaccines universally recommended for children—United States, 1990-1998. MMWR 1999;48:243-248.
2. <http://www.cdc.gov/nis>
3. CDC. National, state, and local area vaccination coverage among children 19-35 months---United States, 2008. MMWR 2009;58:921-926.

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